SA-02

Supervised Wireless Magnetic Contact Sensor

Installation Instructions

1. General Description

The SA-02 Supervised Wireless Magnetic Contact Sensor is a high-performance intrusion sensor, developed with the highest level of technology to make it ideal for residential and commercial applications.

1.1. Standard Features

- Supervisor
- Case and Back Tamper Detectors
- ASIC and Microprocessor Technology
- Up to 3-yr. battery life with SPS
- Ultra-low current consumption
- Readily replaceable 3.6V- 1/2 AA Lithium battery
- SMD component technology
- L.E.D. Test Function

2. Technical Specifications

2.1. Electrical Characteristics

Battery: Lithium Primary cell; 3.6-volt Lithium 900 mAh Tadiran/Varta/Tekcell (SB-AA-02); 1/2 AA Size. (Low Battery Signal when V-2.5V)

CAUTION! Dispose of properly. Do not recharge, disassemble, heat, or incinerate.

Current: Standby - 23 uA; Transmit - 5 mA

Pulse Count: Fixed at single pulse

Detect Range: Sensitivity of up to 2 cm from magnet

Alarm Transmit: One second

2.2. Environmental Characteristics

Operating Temperature: -20°C to +50°C (-4°F to +122°F)

Operating Humidity: Up to 95% non-condensing (max.)

RF Frequency: Available in 433.92 MHz or 868.35 MHz, with 1m Watt

Installation: Indoor

Magnet: Standard magnet with plastic housing and wall spacer, adjustable height

Tamper Switch 1: Detects removal of Magnetic Contact Sensor Front Cover (protected by case tamper switch)

Tamper Switch 2: Detects removal of Magnetic Contact Sensor from the wall or from corner mount (protected by rear tamper switch)

Supervisor: The supervisory signal is routinely transmitted to the panels every 20 minutes, advising the Tamper Status, Battery Status, and Event Activation Status to the panel.

2.3. Physical Characteristics

Dimensions: 87mm(h)x35mm(w)x25mm(d)(3.5"x13/8"x1")

Weight: 37 grams (1.30 oz) without battery

3. Installation – Performance Criteria

The SA-02 Magnetic Contact Sensor detects the opening and closing of doors and windows, and transmits this information to the receiver panel.

- AVOID placing the Magnetic Contact Sensor near strong magnetic or electrical fields other than the magnet with which it is intended to be used. Otherwise, performance may be affected and false alarms may occur.
- AVOID mounting on or near large metal surfaces and multiple concrete/steel walls, as this may interfere or block the wireless signals. Make sure to test the range from any location by using the RF Test Procedure to ensure reception.

NOTE: Install the Magnetic Contact Sensor on windows or doors that have firm hinges and firm locking action, to prevent false alarms associated with wind or bumping.

4. Installation Instructions

4.1. Installing the Battery

Use only the 3.6 V Lithium battery (see battery specifications in section 2.1).

1) Unscrew the case locking screw and remove the front cover.

   CAUTION: Do not touch the magnetic element or the electronic components inside, as doing so may cause damage.

2) For a new unit, simply remove the plastic strip contact breaker. For replacement, remove the battery using a small screwdriver.

   CAUTION: Notice the polarity. Replace with a fresh battery.

3) Dispose of the old battery properly. Do not recharge, disassemble, heat, or incinerate.
4) To test, depress both the back-tamper and the case- tamper buttons, or use a magnet to simulate a door opening and closing. The LED lights up to indicate RF transmission.
5) Close the front cover and replace the locking screw.

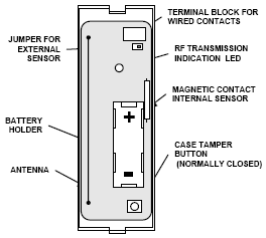

Figure 1: Front of PCB

4.2. Selecting the Location

The location and mounting of the SA-02 affects both the transmission range and the wear and tear of the transmitter. Preferably the transmitter should be installed as close as possible to the receiver, and mounted in a

high location so that the transmission has less interference.

1) Select a DOOR or WINDOW within a room or hallway that best matches the criteria in section 3 (see **Figure 2**).
2) Make sure that the Magnetic Contact Sensor is mounted on a sturdy, non-vibrating door or window frame.

   Note: Following this instruction reduces bumping and vibration effects on the sensor, and extends the life of the product.

3) Perform the RF Test from the proposed mounting location to ensure that the sensor can be received.
4) Select the appropriate height for the magnet assembly that suits the location of the sensor.

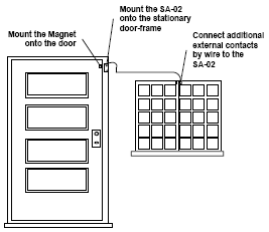

Figure 2: Selecting a Location

4.3. Selecting the Magnet Height

The SA-02 comes equipped with a standard magnet of adjustable height, suitable for most applications. When there is a mismatch in height between the door and the frame, simply press on the sides of the mechanism on the magnet, to adjust the height of the magnet assembly to suit the location of the sensor.

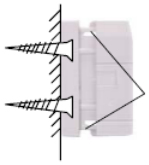

Figure 3: Magnet

4.4. Wiring the External Sensor

When the internal magnetic sensor in the SA-02 is not applicable, or an additional set of contacts is needed for the SA-02, you can install a remote external magnetic contact sensor to the SA-02 with a wire, using the following procedure.

Note: The maximum distance between the external contact and the SA-02 is about 8.5 meters or 25 feet.

1) Remove the case locking screw and front cover.
2) Connect the external magnet(s) in series to the wired input terminal block of the magnetic contact sensor.
3) Move the jumper cover to the two right-most pins to activate the external magnetic contact input.
4) Replace the front cover and locking screw.

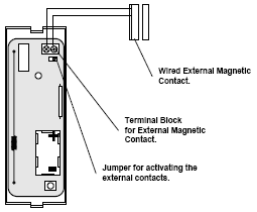

Figure 4: Wiring an External Sensor

4.5. Activating the Back Tamper

Each SA-02 Magnetic Contact Sensor is equipped with both a Back and Case Tamper detector. The Case tamper detector is always active; however, the wall (back) tamper detector (normally inactive) can be optionally activated for additional protection against the theft or removal of the sensor from the mounting location.

The back tamper can be activated to work in unison with the case tamper by cutting the jumper R18 which is on the top side of the PCB.

1) Remove the case locking screw and front cover.

   You can now see the front of the PCB with the antenna showing (see **Figure 5**).

2) Activate the back tamper switch by cutting the jumper.
3) Replace the front cover and locking screw.

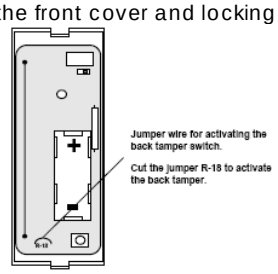

Figure 5: Activating the Back Tamper

4.6. Performing Radio Transmission Test

This test is used to check the range and reception of the sensor to the control panel receiver. If reception is poor, try to change the location of the Magnetic Contact Sensor.

1) Ensure that all the settings of the Magnetic Contact Sensor are adjusted as necessary for the location, according to the steps in sections 4.1 to 4.5, and that the Magnetic Contact Sensor case is closed, with the locking screw firmly secured.
2) Hold the sensor as close as possible to the mounting location, and transmit using the magnet.
3) During this mode, each time the LED flashes, the sensor transmits to the panel. If the panel is armed, an alarm is activated. If the panel is in test mode, the signal strength can be measured.
4) It is recommended to try several locations until the best reception is attained.

4.7. Mounting the Magnetic Contact Sensor

The SA-02 Magnetic Contact Sensor is designed to be mounted onto a flat wooden or stucco surface.

1) Remove the PCB from the back case.
2) Remove the knockouts from the back case labeled B, by using a sharp tool or using a nail.
3) Affix the two screws onto the wall, so that the Back Tamper arm is pressed in.
4) Replace the PCB and tighten the PCB locking screw.
5) Replace the top cover of the Magnetic Contact Sensor.

   Note: When mounting the SA-02 to the surface, it is important to see that the surface is flush with the back tamper device.

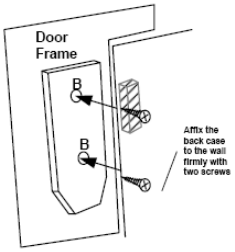

Figure 6: Mounting the SA-02

4.8. Post-Installation Testing

After mounting the back of the sensor housing to the window or door frame, it is important to check the reliability of the RF transmission to the receiver or security panel.

1) Perform a range test as indicated in section 4.6.
   If the sensor is used with a receiver, check to see that the receiver is receiving the sensor.
   It is suggested that you arm the system, and test that the SA-02 transmits to the desired control panel.

Note: If the back tamper has been activated in previous steps, check the security panel to ensure that there is no tamper signal, and that the sensor is properly installed.

4.9. Replacing the Battery in the SA-02

Batteries in the SA-02 should be replaced following a Low Battery indication on the receiver or security panel.

Caution: Dispose of the old battery properly. Do not recharge, disassemble, heat, or incinerate.

1) Open the SA-02 sensor, and observe the correct polarity labeled on the PCB and the holder.
2) Remove the old battery and dispose of it properly.
3) Insert the new battery (according to the specifications in section 2.1).

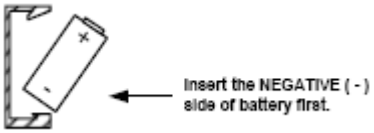

Figure 7: Replacing the Battery

5. Limited Warranty

ROSSLARE ENTERPRISES LIMITED S (Rosslare) TWO YEAR LIMITED WARRANTY is applicable worldwide. This warranty supersedes any other warranty. Rosslare's TWO YEAR LIMITED WARRANTY is subject to the following conditions:

Warranty

Warranty of Rosslare's products extends to the original purchaser (Customer) of the Rosslare product and is not transferable.

Products Covered By This Warranty and Duration

ROSSLARE ENTERPRISES LTD. AND / OR SUBSIDIARIES (ROSSLARE) warrants that the SA-02 Supervised Wireless Magnetic Contact Sensor is free from defects in materials and assembly in the course of normal use and service. The warranty period commences with the date of shipment to the original purchaser and extends for a period of 2 years (24 months).

Warranty Remedy Coverage

In the event of a breach of warranty, ROSSLARE will credit Customer with the price of the Product paid by Customer, provided that the warranty claim is delivered to ROSSLARE by the Customer during the warranty period in accordance with the terms of this warranty. Unless otherwise requested by ROSSLARE ENTERPRISES LTD. AND / OR SUBSIDIARIES representative, return of the failed product(s) is not immediately required.
If ROSSLARE has not contacted the Customer within a sixty (60) day holding period following the delivery of the warranty claim, Customer will not be required to return the failed product(s). All returned Product(s), as may be requested at ROSSLARE ENTERPRISES LTD. AND / OR SUBSIDIARY'S sole discretion, shall become the property of ROSSLARE ENTERPRISES LTD. AND / OR SUBSIDIARIES.
To exercise the warranty, the user must contact Rosslare Enterprises Ltd. to obtain an RMA number after which, the product must be returned to the Manufacturer freight prepaid and insured.
In the event ROSSLARE chooses to perform a product evaluation within the sixty (60) day holding period and no defect is found, a minimum US$ 50.00 or equivalent charge will be applied to each Product for labor required in the evaluation.
Rosslare will repair or replace, at its discretion, any product that under normal conditions of use and service proves to be defective in material or workmanship. No charge will be applied for labor or parts with respect to defects covered by this warranty, provided that the work is done by Rosslare or a Rosslare authorized service center.

Exclusions and Limitations

ROSSLARE shall not be responsible or liable for any damage or loss resulting from the operation or performance of any Product or any systems in which a Product is incorporated. This warranty shall not extend to any ancillary equipment not furnished by ROSSLARE, which is attached to or used in conjunction with a Product, nor to any Product that is used with any ancillary equipment, which is not furnished by ROSSLARE.
This warranty does not cover expenses incurred in the transportation, freight cost to the repair center, removal or reinstallation of the product, whether or not proven defective.
Specifically excluded from this warranty are any failures resulting from Customer's improper testing, operation, installation, or damage resulting from use of the Product in other than its normal and customary manner, or any maintenance, modification, alteration, or adjustment or any type of abuse, neglect, accident, misuse, improper operation, normal wear, defects or damage due to lightning or other electrical discharge. This warranty does not cover repair or replacement where normal use has exhausted the life of a part or instrument, or any modification, abuse of, or tampering with the Product, if Product disassembled or repaired in such a manner as to adversely affect performance or prevent adequate inspection and testing to verify any warranty claim.
ROSSLARE does not warrant the installation, maintenance, or service of the Product. Service life of the product is dependent upon the care it receives and the conditions under which it has to operate.
In no event shall Rosslare be liable for incidental or consequential damages.

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THIS WARRANTY SHALL BECOME NULL AND VOID IN THE EVENT OF A VIOLATION OF THE PROVISIONS OF THIS LIMITED WARRANTY.

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